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ABSTRACT

During the summer of 1968, a 6-week inservice training institute was held at Duluth, Minnesota, for 45 experienced teachers from 13 secondary schools throughout the United States. These schools are part of a 17-school ES '70 Network banded together for the purpose of developing innovative curricula for the 1970's. The purpose of the institute was to prepare the 45 teachers in the following areas: writing behavioral objectives and developing "learning packages" to attain these objectives; gaining skill in group dynamics and developing more self-understanding, openness, and ability to deal with affective phenomena: becoming acquainted with educational simulation; and gaining experience with a broadly-based humanities approach to learning. Significant gains were attained in measured ability to identify, evaluate, and develop behavioral objectives, and in measured attitudes toward teaching and students, in the direction of more acceptance and understanding of students. Subjective, open-ended evaluation by enrollees and generally positive toward the institute, but also somewhat critical of the humanities and educational simulation aspects of the program. Based on critique by enrollees, changes are recommended for future institutes, and a reunion followup is advised to permit further evaluation and sharing of transfer values and experiences. (Author/RT)

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AN INSTITUTE FOR THE TRAINING OF PARTICIPANTS IN THE ES '70 PROJECTS

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U. S. Department of
HEALTH, EDUCATION, AND WELFARE
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SUMMARY

Individualized and personalized instruction has long been an ideal of American education. A relatively new approach to this ideal has been incorporated into the thinking of educational leaders in a group of 17 school systems banded together into what has been entitled the ES '70 Network (educational systems for the 1970's). It is the intent of the member schools to develop a unified, integrated high school curriculum based on a systematic sequence of activities for which measurable behavioral objectives have been specified, and to develop assessment instruments to measure the attainment of these objectives.

During the summer of 1968, an in-service teacher training Institute was held at Duluth, Minnesota (one of the ES '70 member school districts). This six-week Institute brought together 45 experienced teachers from 13 of the 17 ES '70 schools, for the purpose of providing training in the systems approach to instruction, writing of behavioral objectives, developing of "learning packages" to attain these objectives, gaining understanding of and skill in group dynamics, developing more self-understanding, openness, and ability to deal with affective areas of student growth. In addition, enrollees were to become acquainted with educational simulation and gain experiences with a broadly based humanities approach to learning.

A full schedule of activities was carried out in an unusual school setting in which large, open pods replaced classrooms, and in which about 100 high school students carried on their own summer school activities simultaneously, with much integration and overlap between the two groups.

Significantly large gains were found between pre- and post-testing in the ability to identify, evaluate, and develop behavior-based measurable educational objectives. Significant gains were also found from the beginning to the end in attitudes relating to teaching and students, indicating more acceptance, openness, respect for students, and a more relaxed, self-accepting attitude.

Subjective, open-ended evaluation of the experience by the enrollees indicated a generally positive feeling about the Institute, and an expression of satisfaction with many of the learnings. The experiences most often rated as helpful were the work with behavioral objectives and the group dynamics, particularly the sensitivity training experienced late in the institute

by two thirds of the members. Criticisms included concern for too loose a structure, too much use of films without directed follow-up activities, too much time in writing learning packages, lack of opportunity to "practice" use of the learning packages with the high school students, and, most of all, the educational simulation games. These games were criticised as being too expensive and time-consuming providing the wrong kinds of experiences (warlike in one instance), and/or being indications that hardware salesmen are becoming overly influential in education.

One of the most frequently mentioned positive aspects of the Institute was the living arrangements made possible for those who desired such arrangements. Dorms were opened at a local college, providing a fine experience of living together and relating to one another in a congenial atmosphere.

From the experience, it is recommended that: (a) common congenial living arrangements be available and if possible, mandatory; (b) work on behavioral objectives be a core activity, but that once this activity is learned, the development of learning packages be left to the most able and enthusiastic; (c) encounter-group experiences be provided early; (d) more structure be provided initially, for the comfort of the anxious; (e) fewer films be shown with more deliberate instruction on their values; (f) great care be used in selecting educational simulation exercises, indicating their values and showing preference for less expensive games; (g) follow-up activities be planned and funded, permitting enrollees to return after a year or so to share experiences and contribute to better planning of further institutes.

INTRODUCTION

American education has long been attracted to the ideal of individualized and personalized instruction for all students -- that is, arrangements that makes it possible for each student to be engaged in learning those things that will be of greatest benefit to him, at a rate appropriate for him. While this ideal will probably never be fully realized, progress toward it can be made through the implementation and evaluation of innovative educational techniques. One approach toward this ideal is the ES '70 Systems network of 17 public school systems throughout the nation.

Specifically, the ES '70 Systems Approach is characterized by:

1. the formulation of measurable objectives and a systematic sequence of activities designed to converge on the best methods for accomplishing those objectives;

2. the development of assessment instruments to evaluate the degree to which the objectives have been achieved--and so, to validate the methods and materials produced by the program;

3. the utilization of the assessment instruments and a "field environment" for revision and improvement;

4. the utilization and integration of subject matter experts, media specialists, learning psychologists, and administrative personnel within multi-disciplinary teams for planning and instruction.

Each of the 17 ES '70 schools has been assigned a subject-matter area in which it is expected they will provide leadership in developing methods for moving toward the goals of the project.

Purpose

During the summer of 1968, an Institute was held at the Chester Park Elementary school in Duluth, Minnesota, for the purpose of advancing the goals of Project ES '70. Three institutions assumed primary responsibility for planning and conducting the Institute. These were: The University of Minnesota, Duluth; the College of St. Scholastica (Duluth, Minnesota) and the Duluth Public Schools.

Specifically, the six-week summer teacher education Institute was designed to contribute substantially to the solution of a critical and immediate ES '70 problem--the problem of staff prepara-

tion. Because of the unique nature of the ES '70 program and the limited number of personnel in the country who have been exposed to its concepts, it is extremely important that prospective ES '70 teachers receive adequate preparation so that they will perform well in their assignments. The purpose of the Institute was to provide in-service training for experienced ES '70 teachers in selected areas of instruction. These areas were:

1. systems approach to instruction, including the development of behavioral objectives and the preparation of lesson plans to attain these objectives;

2. introduction to educational simulation involving direct student participation in problem-solving situations structured as games;

3. development of group process skills; using Institute enrollees themselves as the laboratory and including sensitivity training;

4. emphasis on the integrative nature of humanities, using excellent films, books, and records, activities in the classroom demonstration center and in the community, and focus on currently troublesome and relevant social issues; and

5. continual emphasis on evaluation and feedback as to the effectiveness of teaching methods and, in the Institute, of the program in which enrollees participated.

Each of the 17 schools in the ES '70 network was invited to send three participants. Other participants in the Institute were the five faculty members, three demonstration teachers, and approximately 100 high school students who were registered in the Duluth Public Schools' summer school program.[1]

[1]See Appendix B for names of Institute staff and demonstration teachers.

METHOD

Subjects

A total of 45 teachers, 34 male and 11 female, from 13 of the 17 ES '70 schools attended the Institute. These enrollees came from all over the United States, from Portland, Oregon, to Baltimore, from San Mateo, California, to Houston, Texas, to Quincy, Massachusetts.[1] The subjects were selected by their administrators on the basis of their experience, their potential contribution to the Institute and to their schools following the experience, and their availability to attend the Institute. Every effort was made to have a representative sample which would include teachers from all disciplines, and this effort was largely successful. Among the enrollees there were not only the standard high school subject matter teachers (English, Science, Social Science) but also teachers of Russian, French, Physical Education, Industrial Arts, Stenography, Guidance--and even one teacher of the mentally retarded. (See Appendix A) Last minute approval of the Institute created some problems and resulted in substitution for original selections in some cases; this may have resulted in the selection of some participants who were less well prepared than the original selectees.

Although about 100 high school students attended classes at Chester Park during the Institute and interacted frequently in many ways with Institute enrollees, they were not subjects of evaluation.

Description of Program

The program was conducted during the same period as the 1968 secondary school summer session program, and the special facilities for individualized instruction which are available at Duluth's Chester Park Elementary School were used to house the Institute and that portion of the Duluth secondary school summer program which served as the demonstration center for educational simulation, integrated humanities activities, and other practicum aspects of the Institute's activities. This arrangement made it possible for the Institute members to observe various kinds of activities and also for each to develop and to a limited extent, try out with students his own strategies in the areas under study in the Institute.

The Chester Park School includes three teaching pods and one instructional materials center. Each pod is the size of four traditional classrooms. There are no interior walls within any pod, nor between the pods and the instructional materials center.

[1] See Appendix A for the list of schools and the enrollees from each.

The entire area is carpeted throughout, and the overall impression is one of large flowing spaces. Also included in the facilities are an office, a work center, an audio-visual workroom, a teacher's workroom, and conference areas. This was the setting within which the Institute was conducted.

Early in the Institute the major emphasis was on the theory and practice of writing behavioral objectives and developing teaching units and packets of materials designed to attain these objectives. During the rest of the time, each enrollee had much time to practice and develop these skills, while also developing appropriate units within his area of competence. While doing this the enrollee had available to him the advice and help of Institute staff members, as well as many opportunities to consult and work together with other enrollees. He had available to him the library facilities not only of the Institute but also of the two colleges in Duluth. In this manner, explicit provisions were made for the procedures of the Institute itself to be consistent with the goals of individualized instruction, so that theory and practice would be interwoven. A large number of excellent packets of teaching materials were produced, and then reproduced and provided to each of the Institute members. After the early stages, this work was all individualized and fitted in with other ongoing activities.

The humanities program was based on a series of 28 top quality art films from all over the world,[1] a variety of taped and recorded music, and a number of paper backs. These materials were the basis for discussion, activity projects, community surveys, studies of local minority group problems, and many other activities involving both institute members and high school students. A number of learning units based on these materials and activities were also prepared by institute members. The basic purpose of these activities was to challenge Institute enrollees and high school students to encounter and ponder the basic human questions of our day, to seek to find themselves and their own meanings and to express these artistically as they felt able to do so.

[1]Some idea of the breadth and scope of films used in the Institute can be gained from the following titles, selected from the list of 28 films shown. Rocco and His Brothers, Yojiinbo, My Name is Ivan, Marshall McLuhan, The Seventh Seal, Ugetsu, Landscape of the Body, Visit in Picasso, Nothing But a Man, Woman in the Dunes. It was, of course, impossible for all enrollees to see all of these films--at any given time some would be engaged in various other activities while others viewed and then discussed films.

The basic form of educational simulation was the computer-supported Inter-Nation Simulation exercise. INS is a functional system consisting of the main elements of international politics. It enables students to manipulate in a simplified way some of the key factors in international relations, and it does so in a manner that permits the students to formulate their own strategies for the countries involved. The strategies of the various countries are fed into the computer which calculates probabilities of various events and outcomes and reports what happened, after which more strategic moves are made. It proved a challenging and exciting game for the high school students, and one that required them to learn much about the countries involved. In playing the game they also set up "nations" in parts of the pods, with artifacts, music, and other cultural displays. The enrollees were observers and occasionally participated in aspects of planning, and in some "spin-off" activities which resulted from the game.

The enrollees met in small groups to study and to experience the dynamics of groups, using various materials relating to group and class interaction and using their own group as a laboratory. Out of these small group activities there grew an interest in sensitivity training or encounter groups, and toward the end of the Institute, three T-groups were formed with one member of the staff as facilitator. These groups met for two mini-marathon sessions at a lake cabin retreat. Thirty-one of the enrollees participated in these activities, designed to increase self-awareness, openness, sensitivity to others and ability to deal honestly with feelings.

A typical day might include working on performance objectives and learning activities in one's own area, seeing a film and participating in a discussion of the film, (sometimes in groups including high school students), participating in small group process, observing the I.N.S. activity and participating in one of its spinoff activities such as a project on the generation gap or on race relations. On other days there might be visiting speakers, panel discussions, student presentations, visits to the Guthrie theater, showing of slides from Turkey by an enrollee who had been in the Peace Corps, sessions on how to make films, discussion of unusual learning packages by enrollees who had completed such assignments, visits to local schools to observe individualized instruction, and many other activities generated during the Institute. One such activity was a brief encounter by enrollees with another educational simulation game entitled "Impact."

Six graduate-level quarter credits were awarded (as desired) for attendance at the Institute. These credits were granted from

the University of Minnesota, Duluth, and assigned to two courses entitled EdCI 112, Programmed Instruction in the Classroom (3 cr.) and EPsy 125, Group Dynamics in Education (3 cr.).

Evaluative Instruments

It was hypothesized that the program of training and the types of activities would produce changes in attitudes, knowledges and skills of the enrollees. In addition to regular feedback from enrollees and ongoing evaluation and changes in the format resulting from such feedback, several measurements were made at the beginning and end of the Institute. The following instruments were administered on the first day and again on the last day of the Institute:

1. The Minnesota Teacher Attitude Inventory (MTAI). This is a popular and widely used instrument for the measurement of teacher attitudes. A high score on this 150-item Likert-type instrument presumably indicates a warm, accepting attitude toward pupils, and an understanding of and respect for children. Conversely a low score would indicate a rigid, somewhat hostile and insecure teacher. The scale has acceptable reliability, and a number of studies tend to support the claim that the test measures the attitudinal dimension described above.

2. Modified 80-item Attitude Inventory. From the total of 150 items on the MTAI, a team of educators involved in individualized instruction was asked to select items which they felt apply with particular emphasis to individualized instruction using the behavioral objectives approach. These teachers agreed on eighty such items, which were scored separately, using the standard MTAI scoring key. These 80 items form a special modified MTAI. It was assumed that the items on which these teachers (all experienced in individualized instruction in the Duluth system) could agree would provide a reliable index of attitude change as it relates to individualizing the instructional program. No effort was made to validate this assumption; therefore results reported from this subtest can only be considered as suggestive. (See Appendix C for the modified MTAI).

3. Educational Objectives Quiz. This is a short test developed by Popham and Baker, designed to measure the subject's skill in writing, and in identifying properly written behavioral objectives. The validity of this quiz can best be determined by examination of the content of the items. (See Appendix D)

4. Instructional Objectives Preference List (IOPL). This is a list of instructional objectives which the subject is required to rate as excellent to poor. This list was developed by W. James Popham for use in training programs in writing behavioral objectives. Again, validity is assumed from the contents of the list, and agreement among experienced writers of behavioral objectives. (See Appendix E for the IOPL.)

5. Methods-Techniques Questionnaire. During the planning stage, the Institute staff expressed a desire to give enrollees an opportunity to describe their own approaches to planning and conducting a teaching unit. It was felt that changes in the way this open-ended assignment was carried out would provide a behavioral measure of learning during the Institute. In order to accomplish this purpose, the following instructions were given to each enrollee:

> Given a class of 20-30 students in a subject of your choice, for which you have sufficient time to prepare, describe the methods, techniques, and resources you would use. Include any other aspects of preparation and operation for the class.

This was given to enrollees upon arrival and turned in a day or two later. It was given again on the last day of the Institute. Staff members developed a scoring method which included the following areas: specification of instructional objectives, purposes, tests relative to objectives, and pretesting; diversification of lessons and activities so as to cover wide range of abilities and interests; pacing; interaction of teacher-students and students-students; relevance of material to students including opportunity to participate in selecting objectives.

In addition to these instruments, all enrollees filled out free-response reactions to all phases of the Institute.

Method of Analysis.

The z-test for significance of difference of means of pre- and posttests was used with the MTAI, the modified MTAI, the Educational Objectives Quiz, and the Instructional Objectives Preference List using the .01 level of significance for rejection of the null hypothesis. For each test the null hypothesis was that test scores do not change when subjects are exposed to the kinds of learning experiences described in this report.

It was intended that the same test be applied to the methods-techniques questionnaire but this did not turn out to be feasible. (See next section)

RESULTS

In Tables 1-4 are summarized the results of the pre- and post-tests for the Minnesota Teacher Attitude Inventory, modified MTAI, Educational Objectives Quiz, and Instructional Objectives Preference List. Each table includes the pre- and posttest means, the mean difference (M_D), the number of subjects (N), the standard error of the mean difference ($S_{\overline{D}}$), and the Z-value. The number of subjects varies and is less than the total enrollment because some left early and one or two did not take all of the tests.

Table 1
Minnesota Teacher Attitude Inventory
N=37

Testing	Mean	M_D	$S_{\overline{D}}$	Z-Value
Pre-test	51.30	12.05	2.63	4.58**
Post-test	63.35			

**sig. at .001 level

The null hypothesis is rejected; the results clearly indicate significantly higher scores in the post-test.

Table 2
Modified 80-Item M.T.A.I.
N=38

Testing	Mean	M_D	$S_{\overline{D}}$	Z-Value
Pre-test	26.32	7.61	1.51	5.04**
Post-test	33.92			

**Significant at .001 level

The null hypothesis is rejected; again the results indicate significantly higher post-test scores.

Table 3
Educational Objectives Quiz (EOQ)
N=39

Testing	Mean	M_D	$S_{\overline{D}}$	Z-value
Pre-test	70.79	9.49	2.49	3.81**
Post-test	80.39			

**Significant at .001 level

The null hypothesis is rejected; post-test scores are significantly higher.

Table 4
Instructional Objectives Preference List (IOPL)
N=38

Testing	Mean	M_D	$S_{\overline{D}}$	Z-value
Pre-test	75.63	8.08	1.67	4.84**
Post-test	83.71			

**Significant at .001 level

The null hypothesis is rejected; post-test scores are significantly higher.

The scoring method used in attempting to arrive at a single score on the Methods-Techniques questionnaire turned out to be of slightly questionable reliability, so that quantitative analysis of the results might have been rather misleading. Visual examination of the results left the impression that there was some "improvement" in the area of specifying instructional objectives, but either no change or reduction of scores in the other areas. This matter is discussed further in the next section, in which enrollees reactions are also summarized.

DISCUSSION

A large part of the work of the Institute centered around the preparation of precise, measurable behavioral objectives, and of preparing "packages" of materials designed to attain these objectives.

Following initial lectures, examples, demonstrations, each enrollee began working on his own, aided and guided by staff members. This being so, it would indeed have been surprising had the enrollees not during this 6-week period become better able to write and to identify good behavioral objectives. At the same time, it should be borne in mind that these were selected experienced teachers from schools in the ES '70 network, had already had exposure to this approach to teaching, and could be expected to do well on the pre-tests measuring this skill.

As indicated in Tables 3 and 4, this group did indeed do well in the two pre-tests measuring the ability to recognize, evaluate, and write behavioral objectives (the EOQ and the IOPI4); yet their scores increased markedly during the Institute. It may be concluded with considerable confidence that experienced teachers coming to such an Institute as described in this report can be expected to improve their knowledge and skills in dealing with behavioral objectives during the course of the Institute. In this regard, then, clearly the Institute successfully attained its goals as measured in the behavior of the enrollees.

As indicated earlier, the open-ended assignment entitled "Methods-Techniques Questionnaire" did not work out well. The pre-test was given to enrollees when they came, and they were permitted to take it out and work on it for about two days. The result was that they wrote at great length and turned in very painstaking, serious products. At the end of the Institute the same form was given out on the last day. Several had already left, and the rest were in no mood to take a great amount of time on the instrument. Thus the two testings were not comparable. In addition, the inter-judge reliability of the scoring among the three Institute staff members who attempted to score was somewhat less than desirable. But the general impression of all three judges was that because of the testing error the second testing showed rather brief and careless replies and would therefore have been judged to be of poorer quality than the first testing, except in the area of specification of instructional objectives. This last observation tends to corroborate the results of the two tests.

The question of what might happen to the attitudes of enrollees was a much more open one. No direct attempts were made to change attitudes toward children, toward teaching, toward individualized instruction. However, the small-group experiences emphasizing group dynamics and the many discussions centering on human problems and concerns as shown in films and found in readings and spin-off projects from the Internation Simulation exercise might be expected to have some impact on attitudes. In addition, the experience of sensitivity

training, while focussing only on the "here-and-now" and the participants themselves, was expected to influence attitudes in the direction of more openness, more nonjudgmental acceptance of others and differences in others, as well as self-acceptance. If such changes occurred, it seems reasonable to assume that they would result in changed attitudes toward teaching and toward children. As indicated by the results reported in Tables 1 and 2, the increase in MTAI scores tends to support this assumption.

Even more tentative is the finding that attitudes become more favorable with regard to issues especially pertinent to individualized instruction, as indicated by the modified 80-item attitude scale. The use of this modified scale in this way needs further study and validation.

In addition, each enrollee was asked to fill out a form indicating his reaction to each phase of the Institute.[1] As might be expected, practically every aspect of the summer program was selected by someone as most valuable and by someone else as least valuable. However, some things did stand out. A large number of enrollees felt that the work on behavioral objectives was very valuable, and a lesser number found the work on "packages" of instructional materials to be of great value. On the other hand, a fair number of others were disappointed or even upset that so much emphasis was put on development of the "packages," a task they felt they could have worked on at home later. In this connection it should be noted that a few enrollees completed no instructional units at all, some did one or two inferior ones, and a few made up brilliantly conceived and really outstanding units.

Although only 31 of the 45 enrollees actually took part in the sensitivity training, this aspect of the Institute was selected more frequently perhaps than any other as the outstanding experience of the Institute. A number commented specifically on the value of getting to know themselves better and/or developing sensitivity and skills which they felt would make them better teachers. Such reactions are known to be fairly typical for participants in encounter groups, and reflect to some extent the rather dramatic quality of the experience.

[1]It must be noted here that all evaluative materials from the Institute were assigned by Mr. Thorwald Esbenson to a Duluth teacher for analysis and summary. After holding them for a considerable time without working on them, he left the system for another part of the country and it has proved impossible to recover the enrollees reaction-statements from him. Thus, this part of the report is based largely on recollections from having studied these statements earlier, and from some later letters received from participants or their superiors.

as contrasted to the more mundane experience of working on behavioral objectives, for example. Nevertheless, it would seem apparent that such experiences are well worth considering in relatively short workshops or institutes where it is of value to develop a warm, accepting relationship among participants.

The opportunity to live and work with teachers from all parts of the country was frequently mentioned as one of the real values of the Institute. In this connection, the living facilities at St. Scholastica, and the warm hospitality at that school, were frequently and very favorably mentioned.

The large number of films produced a very mixed reaction, but on the whole the enrollees appeared to feel that too many films were shown with not enough structuring so that possible educational values may have been realized. In general the humanities aspects of the Institute were criticized rather extensively as being not well organized and of dubious value. It should be noted that the value of such activities as seeing and discussing films dealing with human problems is less easy to pin down than is the value of skill-oriented activities. The very fact that a number of people were really disturbed by some films indicates that the films were having an impact; furthermore, there were animated and sometimes very heated discussions following the films, as might be expected since many raise questions about values held dear and probably never previously questioned by many members of the institute. Still, the criticism is well taken that there were too many films and not enough development of the themes or questions raised.

Another aspect of the Institute that came in for considerable criticism was the lack of structure. Many felt that a more rigid structure with specific assigned work and strict accountability for accomplishing that work would have been an improvement. It seems evident that people who need such structure would have produced more than they did under the rather relaxed conditions requiring a good deal of self-direction and motivation. Other enrollees, however, expressed appreciation for the opportunity to shape their own behaviors in directions they felt most useful, and expressed appreciation for the "flexibility" of the staff.

The visiting lecturers too received mixed evaluation, with many enrollees expressing the feeling that they did not contribute a great deal, while a number of others rated their contributions very highly.

Several understood beforehand that they would have more opportunity than they did to work with the summer school students in the role of teachers, "trying out" their learning units on these students. These teachers were disappointed in having relatively little opportunity to do so. All were able, however, to relate to the students in more informal ways, such as in working together on a humanities project, community survey, or the like; and many enrollees expressed appreciation of the opportunity to have this kind of close relationships with students in a non-teaching role.

Perhaps the sharpest criticism was directed at the simulation games. One such game, "impact," was introduced to the enrollees early in the Institute, but there was so much opposition to continuing the game that it was aborted. After that they observed the Inter-nation simulation, and many of them were critical of that for various reasons. Some felt that it was too expensive and elaborate; some doubted its educational value; some were alarmed to observe that it soon appeared to deteriorate into a big war game played with considerable enthusiasm until the earth was blown up. Some viewed with alarm the possibility that hardware merchants were moving in rapidly with the increase in Federal funds for education, and might begin to take over educational tasks and prerogatives for private profit.

Finally, there were a number of comments indicating that more should have been done to clarify the goals of ES '70 and means for attaining these goals.

CONCLUSIONS, RECOMMENTAIONS

This six-week summer Institute at Duluth, Minnesota, participated in by 45 teachers from 13 of the 17 schools in the ES '70 Network, was designed to attain five major objectives. The evidence indicates that it was successful in developing knowledge of and skills in recognizing, evaluating and writing behavioral objectives and in developing teaching materials and lesson plans to reach these objectives. It also appears to have been successful in developing group process skills and attitudes of greater openness to and acceptance of self and others, with some resulting changes in attitudes toward teaching and pupils.

The evidence is less positive with regard to the success of the Institute in the areas of Humanities education, or at least the enrollees did not leave with a strong sense of ways in which they them-

selves might put this education to work. Still less certain was the value of the introduction to educational simulation, since it left a majority of enrollees with negative attitudes about that kind of educational experience. Finally, constant evaluation and feedback were attempted during the Institute, and also provided to the enrollees as they progressed with their behavior-based units. The feedback from enrollees resulted in some changes in the course of the Institute as it progressed. Whether these changes were improvements is difficult to say.

Based upon the evaluation, observations, and reactions of Institute enrollees, the following recommendations and suggestions are made for future ES '70 Institutes.

1. Having participants from all sections of the country and all of the disciplines or learning areas covered in high schools, and having minority group members included, makes for a very enriching, rewarding experience for all concerned.

2. If it can possibly be arranged, Institute enrollees should be housed in some common area; this was rated as very desirable by both those who stayed at St. Scholastica and many of those who did not.

3. Study and discussion of, and practice in writing behavioral objectives and producing materials for attaining such objectives is an important activity which can be carried out very successfully.

4. However, there are such tremendous individual differences in the skill and enthusiasm which teachers bring to this task that it would seem unreasonable and inefficient to require all teachers to engage in such endeavors (beyond the point where they can understand how to do it and appreciate its value). It would seem more profitable to assign this task to those teachers or groups of teachers in each discipline who can do it well and who want to do it.

5. Institutes of this type should build in encounter-group experiences very early in the Institute, so as to attain the greatest possible benefits to all enrollees during the time of the Institute, and so as to create a warm, congenial, relaxed atmosphere in which to carry out the rest of the Institute. Participation in such activities must be voluntary.

6. Fairly well-structured organization and management, especially during early sessions, would do much to relieve anxiety in teachers who have become accustomed to expecting and to providing organized learning situations. Such structure could probably be relaxed later in the Institute with little difficulty if suggestion

no. 4 (early T-grouping) were followed.

7. Fewer films should probably be used with more carefully planned ways of drawing value from them and of making sure that the enrollees actually recognize the value and plan ways to use such films effectively; perhaps one or two excellent films per week would suffice.

8. If educational simulation devices are used, more explicit and specific attempts should be made to indicate their educational purpose and values. It seems of dubious value to demonstrate simulation requiring extremely expensive hardware as well as constant supervision by representatives of the companies providing the hardware, since this is not only impracticable for most school districts in the foreseeable future but also tends to shift the determination of educational methods and objectives into the hands of private entrepreneurs.

9. Future Institutes should be funded early enough so that more careful planning, based on precise information as to extent and type of funding can be made, so that it will not be necessary to work without such information until the very week of the beginning of the Institute, as was true in the present instance.

10. Future Institutes should be funded adequately enough so that the enrollees, or at least a representative cross-section of them, can be called back after a year in order to report how they have made use of their learnings, how they now view the experience, and what changes they would recommend. Such a follow-up meeting, held for a week or more, would permit cross-fertilization of ideas carried over from the Institute to one or more schools, rekindle enthusiasms which may have waned during the year because of other demands and presses, and allow for planning better institutes in the future.

In summary, both the measurement data and the basically enthusiastic and positive comments of enrollees provide evidence that this Institute achieved its major goals, but that with the knowledge now at hand a number of mistakes could be avoided in the future, and a considerably better and more effective Institute planned.

APPENDIXES

Appendix A

Schools Represented in the Institute, Personnel from Each School, and Major Teaching Area of Each

San Mateo, California
- Grimes, Robert D.--English
- Gwosden, Milo--Social Studies, Humanities
- Mast, Lloyd J.--Business Education, Shorthand
- McLean, Robert A. Jr.--Humanities

Boulder, Colorado
- Cohen, Philip E.--Social Studies, American history
- Cox, Gary G.--Music
- Krom, Mary L.--Mathematics
- Siktars, Maija--Mathematics
- Watkins, Robert--Science(Chemistry)

Jackson, Kentucky
- Frasure, Malcom H.--Biology
- Rutherford, Darrel--English

Quincy, Massachusetts
- Forsyth, Richard W.--Automotive and related
- Fowke, Ronald--Guidance & counseling

Monroe, Michigan
- McEwen, William--Mathematics
- McMillan, Kenneth--English

Duluth, Minnesota
- Carlson, June A.--English
- Golen, Leonard L.--English, humanities
- Heikkinen, Marvin E.--Social Studies
- Murphy, Mary C.--Social studies
- Soderberg, Donald--Humanities
- Turner, Robert--Spanish

Baltimore, Maryland
- Press, Joseph P.--Electronics
- Williams, Mamie B.--Business, stenography

Willingboro, New Jersey
- Brandau, George C.--Vice Principal
- Burrows, Arthur--Science
- Reilly, Patrick T.--English
- Rocco, Harry--Mathematics

Mamaroneck, New York

Rogowsky, David--Social Studies
Rogowsky, Janet--French and Russian

Mineola, New York

Debski, Merrill--Music
Fishkin, Rhoda K.--English, humanities
Weston, Jess--Science
Young, Frank D.--Mathematics

Portland, Oregon

Fuller, Robert H.--Industrial arts, metal
Hedeen, Lauren--English
Hill, Glenn E.--Business Education
O'Brien, Joseph--Mathematics
Schwab, Carl--Social studies

Houston, Texas

Bryant, Faye B.--Guidance, counseling
Burney, Paralee--English
Gray, Naurita--Mathematics
Smith, Roland--Prin., soc. studies

San Antonio, Texas

Bryant, Bessie L.--Mentally retarded
Troy, Clifford--Physical education

Appendix B -- Institute Staff

Faculty of the Institute

1. Sister Margaret James, O.S.B., College of St. Scholastica, Duluth, Coordinator of Project Criterion.

2. Dr. Armas W. Tamminen, Professor and Head, Department of Psychology, University of Minnesota, Duluth

3. Charles L. Jenks, Director of Research & Development, Reed Union School District, Belvedere-Tiburon, California

4. George Ramos, Consultant for Special Projects (Humanities), Duluth Public Schools, Duluth, Minnesota

5. Roger B. Tunks, Assistant High School Principal, Portland, Oregon

Demonstration Teachers

1. Brantly Bublitz, East High School, Duluth

2. Dale Koch, Chester Park Elementary School, Duluth

3. Robert Zbasnik, Washington Junior High School, Duluth

Appendix C

Modified 80 - Item M.T.A.I.

1. (3) Minor disciplinary situations should sometimes be turned into jokes.

2. (5) Teaching never gets monotonous.

3. (9) A child should be encouraged to keep his likes and dislikes to himself.

4. (10) It sometimes does a child good to be criticized in the presence of other pupils.

5. (13) The first lesson a child needs to learn is to obey the teacher without hesitation.

6. (14) Young people are difficult to understand these days.

7. (15) There is too great an emphasis upon "keeping order" in the classroom.

8. (16) A pupil's failure is seldom the fault of the teacher.

9. (17) There are times when a teacher cannot be blamed for losing patience with a pupil.

10. (19) Pupils have it too easy in the modern school.

11. (20) A teacher should not be expected to burden himself with a pupil's problems.

12. (21) Pupils expect too much help from the teacher in getting their lessons.

13. (23) Most pupils do not make an adequate effort to prepare their lessons.

14. (24) Too many children nowadays are allowed to have their own way.

15. (25) Children's wants are just as important as those of an adult.

16. (26) The teacher is usually to blame when pupils fail to follow directions.

17. (29) Children have a natural tendency to be unruly.

18. (31) Some children ask too many questions.

19. (34) A teacher should never acknowledge his ignorance of a topic in the presence of his pupils.

20. (35) Discipline in the modern school is not as strict as it should be.

21. (36) Most pupils lack productive imagination.

22. (37) Standards of work should vary with the pupil.

23. (38) The majority of children take their responsibilities seriously.

24. (39) To maintain good discipline in the classroom a teacher needs to be "hard-boiled."

25. (40) Success is more motivating than failure.

26. (42) Every pupil in the sixth grade should have sixth grade reading ability.

27. (43) A good motivating device is the critical comparison of a pupil's work with that of other pupils.

28. (45) Course grades should never be lowered as punishment.

29. (46) More "old-fashioned whippings" are needed today.

30. (47) The child must learn that "teacher knows best."

31. (48) Increased freedom in the classroom creates confusion.

32. (50) Teachers should exercise more authority over their pupils than they do.

33. (52) The low achiever probably is not working hard enough and applying himself.

34. (53) There is too much emphasis on grading.

35. (57) Many teachers are not severe enough in their dealings with pupils.

36. (61) Children are usually too sociable in the classroom.

37. (62) Most pupils are resourceful when left on their own.

38. (63) Too much nonsense goes on in many classrooms these days.

39. (66) Pupils who fail to prepare their lessons daily should be kept after school to make this preparation.

40. (69) Assigning additional school work is often an effective means of punishment.

41. (71) Children should be allowed more freedom in their execution of learning activities.

42. (74) Pupils usually are not qualified to select their own topics for themes and reports.

43. (76) There is too much leniency today in the handling of children.

44. (78) The whims and impulsive desires of children are usually worthy of attention.

45. (79) Children usually have a hard time following instructions.

46. (80) Children nowadays are allowed too much freedom in school.

47. (81) All children should start to read by the age of seven.

48. (82) Universal promotion of pupils lowers achievement standards.

49. (86) If a child wants to speak or to leave his seat during the class period, he should always get permission from the teacher.

50. (93) Children should be given more freedom in the classroom than they usually get.

51. (96) Pupils are usually slow to "catch on" to new material.

52. (98) Pupils can be very boring at times.

53. (100) Children must be told exactly what to do and how to do it.

54. (102) Whispering should not be tolerated.

55. (105) A teacher should never leave the class to its own management.

56. (106) A teacher should not be expected to do more work than he is paid for.

57. (108) "Lack of application" is probably one of the most frequent causes of failure.

58. (109) Young people nowadays are too frivolous.

59. (110) As a rule teachers are too lenient with their pupils.

60. (111) Slow pupils certainly try one's patience.

61. (114) Children usually will not think for themselves.

62. (115) Classroom rules and regulations must be considered inviolable.

63. (116) Most pupils have too easy a time of it and do not learn to do real work.

64. (120) There is usually one best way to do school work which all pupils should follow.

65. (121) It isn't practicable to base school work upon children's interests.

66. (123) Children that cannot meet the school standards should be dropped.

67. (124) Children are usually too inquisitive.

68. (126) Children today are given too much freedom.

69. (127) One should be able to get along with almost any child.

70. (128) Children are not mature enough to make their own decisions.

71. (130) Children will think for themselves if permitted.

72. (134) Most pupils are not interested in learning.

73. (136) A pupil should always be fully aware of what is expected of him.

74. (141) Teachers should not expect pupils to like them.

75. (142) Children act more civilised than do many adults.

76. (143) Aggressive children require the most attention.

77. (145) Young people today are just as good as those of the past generation.

78. (146) Keeping discipline is not the problem that many teachers claim it to be.

79. (147) A pupil has the right to disagree openly with his teachers.

80. (149) One should not expect pupils to enjoy school.

Appendix D

EDUCATIONAL OBJECTIVES QUIZ NAME_____

Part I. Please complete this section before you look at Part II. If necessary, change each objective below so that it is stated in terms of student behavior. (Either make written modifications of the objective or write out a new objective.)

A. At the end of the course, the student will understand fundamental concepts of Biology.

B. The class will learn about labor management relations.

EDUCATIONAL OBJECTIVES QUIZ NAME_____

Part II. Place an X before any of the following instructional objectives which are properly stated.

_____ The student will grasp the significance of the Treaty of Versailles.

_____ The student will have an attitude favorable to English grammar indicated by his response to a questionnaire.

_____ The student will know six verbs.

_____ The student will learn the names of the common tools in wood shop.

_____ The teacher will list three major causes of the Civil War on the chalkboard.

_____ The student will know the important battles of World War I.

_____ The student will prefer cooking to sewing.

_____ The student will be able to correctly thread a sewing machine.

_____ The student will pay attention as the teacher demonstrates the use of the lathe.

_____ The student will be able to develop a sense of the cultural unity of man.

_____ The student will list and describe the themes of four of Shelley's poems.

_____ The child will develop interest in leisure sports.

_____ The student will give indications of a desire to learn more history by volunteering to present an extra oral report.

_____ The teacher will describe with understanding five concepts treated in the text.

_____ The student will correctly solve all of the story problems presented.

_____ The student will accurately learn the best known works of Voltaire.

_____ The teacher will help the class to solve algebra problems correctly.

_____ The student will appreciate the key importance of algebraic approaches.

_____ The student will include 10 supporting facts in a written persuasive paragraph.

_____ The student will become familiar with how to write an essay using no reference but personal experience.

Appendix E

INSTRUCTIONAL OBJECTIVES PREFERENCE LIST Name_____

Directions: Rate the instructional objectives below according to the following scheme:

Excellent:	5	Fair:	2
Good	4	Poor:	1
Average	3		

There are no "right" or "wrong" answers for this list, so please express your preferences candidly by placing a number before each objective.

__1. The student will be able to comprehend thoroughly the ways in which our constitution permeates our every day life.

__2. When presented with a list of nouns and pronouns, the student will be able to label each word correctly.

__3. Student will be able to see the value of reading the "classics" in his leisure time.

__4. The student will be able to write an essay employing one of three logical organizations given in class which exhibts no grammatical errors.

__5. The student will be able to learn the number of voters in his precinct.

__6. The student will be able to list those articles in the constitution which relate to "due process of law."

__7. Students will realize the importance of knowing the approximate date at which a given literary work was produced.

__8. The teacher will cover the key tools of the chemistry lab, that is, the Bunsen burner and various types of test tubes.

__9. Given a list of 10 actual municipal court decisions, the student will be able to select the six which violate key tenets of the constitution and subsequently write an essay briefly explaining the nature of these violations.

__10. The student will orally recite the names of six chemical compounds containing three or more elements.

___11. The student will be able to cite some of the literary "classics" and briefly describe in an essay those features which give them universal appeal.

___12. The student will grasp the significance of civic responsibility.

___13. The student will be able to name the date when women were first permitted to vote.

___14. The teacher will discuss the grammatical form of the amendments to the constitution.

___15. The student will be cognizant of the important role scientific investigation has played in the field of chemistry and will become conversant with the relationship between scientific inquiry and the everyday life of the individual.

___16. The teacher will help the class to become proficient communicators in written English.

___17. Given the names of well-known novels and the names of contemporary authors, the student will be able to correctly match them in a test.

___18. The student will be able to write an essay in which he contrasts the arguments for having a democracy or totalitarian state.

___19. The student will learn the parts of speech.

___20. The student will be capable of setting up an experimental hypothesis test in the field of quantitative chemical analysis so that presented with an unknown chemical compound he can thereafter correctly identify its constituent elements.

Scoring Instructions:

Step 1. Add numbers by items 2, 4, 6, 9, 10, 11, 13, 17, 18, 20. This is subtotal No. 1.

Step 2. Add numbers by the remaining items. This is subtotal No. 2.

Step 3. Subtract subtotal No. 2 from 60.

Step 4. Add the results of 3 to subtotal No. 1. This is the score for the IOPL.

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ABSTRACT

During the summer, 1968, a six-week inservice training Institute was held at Duluth, Minnesota, for 45 experienced teachers from 13 secondary schools throughout the United States. These schools are part of a 17-school ES '70 Network banded together for the purpose of developing innovative curricula for the 1970's. The purpose of the Institute was to prepare the 45 teachers in the following areas: writing behavioral objectives and developing "learning packages" to attain these objectives; gaining skill in group dynamics and developing more self-understanding, openness, ability to deal with affective phenomena; becoming acquainted with educational simulation; gaining experience with a broadly-based humanities approach to learning.

Significant gains were attained in measured ability to identify, evaluate, and develop behavioral objectives, and in measured attitudes toward teaching and students, in the direction of more acceptance, understanding, respect for students. Subjective, open-onded evaluation by enrollees was generally positive toward the experience of living and working together and toward the aims of the Institute, but also somewhat critical of the humanities and educational simulation aspects of the program. Based on thoughtful critique by enrollees, changes are recommended for future institutes, and a reunion followup is advised to permit further evaluation and sharing of transfer values and experiences.